

Figure 1 consists of 11 subplots, labeled (a) through (k), arranged in two columns. Each subplot shows the normalized maximum value of the normalized velocity profile,  $V_{max}/V_0$ , on the y-axis, plotted against a specific parameter on the x-axis. The subplots are as follows:

- (a)  $V_{max}/V_0$  vs. Reynolds number ( $Re$ )
- (b)  $V_{max}/V_0$  vs. Prandtl number ( $Pr$ )
- (c)  $V_{max}/V_0$  vs. Schmidt number ( $Sc$ )
- (d)  $V_{max}/V_0$  vs. Lewis number ( $Le$ )
- (e)  $V_{max}/V_0$  vs. Eckert number ( $Ec$ )
- (f)  $V_{max}/V_0$  vs. Brinkman number ( $Br$ )
- (g)  $V_{max}/V_0$  vs. Biot number ( $Bi$ )
- (h)  $V_{max}/V_0$  vs. Stefan number ( $St$ )
- (i)  $V_{max}/V_0$  vs. Lewis number ( $Le$ )
- (j)  $V_{max}/V_0$  vs. Lewis number ( $Le$ )
- (k)  $V_{max}/V_0$  vs. Lewis number ( $Le$ )

The curves in the subplots generally show that  $V_{max}/V_0$  increases as the parameter values increase. Some subplots, such as (a) and (b), show a sharp increase in  $V_{max}/V_0$  at high values of the parameter.

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CERTIFICATE OF EXPRESS MAILING

I hereby certify that the patent application, above-referenced, is being deposited with the United States Postal Service as Express Mail, Label No. **EL444166526US**, in an envelope addressed to: Assistant Commissioner for Patents, Box Patent Application, Washington, D.C. 20231-9999, on 29 January 2001.

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PATENT APPLICATION

Attorney Docket No. A00219US (98361.3)

TITLE OF THE INVENTION

"Sports Projectile Shaped Bead Necklace and Method of Manufacture"

5 INVENTOR: Daniel P. Kelly, a citizen of the United States and residing in Kenner, Louisiana

CROSS-REFERENCE TO RELATED APPLICATIONS

My co-pending U.S. Design Patent Application Serial No. 29/125,191, filed 20 June 2000, for "Sports Beads", is incorporated herein by reference.

10 Priority of U.S. Provisional Patent Application Serial No. 60/214,532, filed 6/27/00, incorporated herein by reference, is hereby claimed.

STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT

Not applicable

REFERENCE TO A "MICROFICHE APPENDIX"

Not applicable

15 BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to necklaces. More particularly, the present invention relates to an improved necklace containing sports projectile (e.g. baseball, football, soccer ball, hockey puck, etc.) shaped beads and one or more enlarged bead(s) or pendant beads.

20 2. General Background of the Invention

Prior art necklaces have been sold containing baseball or football shaped beads. These beads are typically hollow beads which are strung onto a string individually. These prior art necklaces were not provided with smaller beads and pendants (or larger beads) but were rather hollow beads of generally uniform size and shape.

25 The following patents are incorporated herein by reference: U.S. Patent Nos. 1,958,841; 2,008,005; 2,163,814; 2,253,659; 2,577,584; 2,893,095; 3,091,030 and D-206,176.

U.S. Patent No. 1,958,841 discloses a beaded string and shows molding the bead onto a string to form an integral continuous string of beads.

30 U.S. Patent Nos. 2,163,814; 2,253,659; and 2,577,584 disclose ornamental articles that are integral units in that the ornaments are molded onto support wires or rods.

U.S. Patent No. 3,091,030 discloses a belt formed with beads integrally molded onto a

fiber support.

#### BRIEF SUMMARY OF THE INVENTION

5 The present invention provides an improved necklace that has a plurality of smaller beads fastened together to define a necklace body, a majority of the smaller beads having a sports projectile shape such as for example a football, baseball, basketball, soccer ball, or hockey puck.

10 The smaller beads can include a plurality of alternating groups of smaller beads of differing colors. For example, there can be provided a first group of adjacent beads of, for example, eight beads of a red color. On either side of the group of eight red beads, there can be provided other groups of beads of different colors such as, for example, eight beads of gold color.  
15 A larger bead or pendant is supported by the necklace body, the larger bead displaying one of the first or second colors or both of the first and second colors of the first and second groups of smaller beads.

20 The present invention provides an improved method of marketing a sports souvenir for a team that has at least two team colors. The method includes providing a souvenir in the form of a necklace body that includes multiple, spaced apart smaller beads having a shape of a sports projectile, and a larger bead or pendant that displays at least one of the team colors thereon. The method also includes grouping the beads in colored groups of one team color followed by another team color. The method includes marketing the souvenir necklace to a sports fan.

#### 25 BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

For a further understanding of the nature, objects, and advantages of the present invention, reference should be had to the following detailed description, read in conjunction with the following drawings, wherein like reference numerals denote like elements and wherein:

FIGURE 1 is a perspective view showing a first embodiment of my invention, a necklace of relatively small football-shaped beads having a relatively large football-shaped bead attached thereto as a pendant;  
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FIGURE 2 is a perspective view showing a second embodiment of my invention, a necklace of relatively small baseball-shaped beads having a relatively large baseball-shaped bead attached thereto as a pendant;

FIGURE 3 is a perspective view showing a third embodiment of my invention, a necklace of relatively small basketball-shaped beads having a relatively large basketball-shaped bead attached thereto as a pendant;  
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FIGURE 4 is a perspective view showing a fourth embodiment of my invention, a necklace of relatively small soccer ball-shaped beads having a relatively large soccer ball-shaped bead attached thereto as a pendant;

FIGURE 5 is a perspective view showing a fifth embodiment of my invention, a necklace of relatively small football-shaped beads;

FIGURE 6 is a perspective view showing a sixth embodiment of my invention, a necklace of relatively small baseball-shaped beads;

FIGURE 7 is a perspective view showing a seventh embodiment of my invention, a necklace of relatively small basketball-shaped beads;

FIGURE 8 is a perspective view of a sports bead necklace showing an eighth embodiment of my invention, a necklace of relatively small soccer ball-shaped beads;

FIGURE 9 is a perspective view of a ninth embodiment of the apparatus of the present invention;

FIGURE 10 is a partial perspective view of the ninth embodiment of the apparatus of the present invention;

FIGURE 11 is a fragmentary perspective view of the preferred embodiment of the apparatus of the present invention and showing particularly the attachment of the beads to the string;

FIGURE 12 is a sectional view taken along lines 12-12 of FIGURE 11; and

FIGURES 13-14 are sectional views illustrating the method of the present invention, showing beads being directly molded to a supporting string.

#### DETAILED DESCRIPTION OF THE INVENTION

Figure 1 shows a first embodiment of the apparatus of the present invention designated generally by the numeral 10. Necklace 10 is comprised of a plurality of smaller beads 11 mounted upon string 12. In the preferred embodiment, these smaller beads 11 are directly molded to the string 12 and are thus solid in construction. A larger bead 13 is also attached to the necklace body which is comprised of the necklace string 12 and the smaller beads 11. The larger bead 13 can be in the form of a pendant or can simply be a larger bead that replaces some of the smaller beads 11.

Each of the beads 11 in Figure 1 is preferably a sports projectile, namely a football having a tapered end 14, tapered end 15 and a large central portion 16. Each of the beads 11, 13

preferably has one or more simulated seams 17 and can include simulated laces 18.

In Figure 2, a second embodiment of the apparatus of the present invention, designated generally by the numeral 20. Necklace 20 includes smaller beads 21 and a larger bead 23. If desired, more than one larger bead 23 can be supported by the necklace body which is comprised of string 22 and smaller beads 21 that are preferably directly molded thereto.

Each of the smaller 21 and larger 23 beads preferably provides simulated stitching 24. The necklace 20 of Figure 2 thus includes a plurality of baseball shaped sports projectile like beads 21 and a larger baseball simulated bead 23 as shown. The bead 23 can be in the form of a pendant that depends from the necklace body that is comprised of the smaller beads 21 and string 22.

In Figure 3, a third embodiment of the apparatus of the present invention is shown, designated generally by the numeral 30. Necklace 30 is comprised of a plurality of smaller beads 31 mounted upon string 32. In Figure 3, the smaller beads 31 are preferably directly molded to string 32. Larger bead 33 can be in the form of a pendant as shown in Figure 3 or can be simply a larger bead on string 32 that replaces some of the smaller beads 31. The larger bead 33 preferably provides one or more simulated seams 34 as shown. Similarly, the smaller beads 31 can provide one or more simulated seams.

In Figure 4, another embodiment of the apparatus of the present invention is shown designated generally by the numeral 40. The necklace 40 includes a necklace body that is comprised of smaller beads 41 and string 42. In Figure 4, the smaller beads 41 are preferably directly molded to the string 42. A larger bead 43 can be in the form of a pendant or can be molded directly to string 42 in the same general position as the smaller beads 41, with the larger bead 43 replacing some of the smaller beads 41. The necklace 40 of Figure 4 has smaller beads 41 and larger beads 43 that each simulate a soccer ball. Thus, each of the beads 41, 43 can have a plurality of panels 44, 45 including lighter colored panels 44 and darker colored panels 45. Simulated seams 46 are provided on both smaller beads 41 and larger bead 43, the seams 46 marking the boundary between adjacent panels 44, 45.

In Figure 5, a necklace is shown, designated generally by the numeral 50 that is comprised entirely of small, football shaped beads 11 molded directly to a string 12.

In Figure 6, the necklace 51 shown is comprised entirely of smaller beads 21 that are of a simulated baseball shape, molded directly to string 22.

In Figure 7, the necklace 52 is comprised entirely of small beads 31 that simulate basketballs, each bead 31 molded directly to string 32.

In Figure 8, the necklace 53 is comprised entirely of smaller beads 41 that simulate soccer balls, each bead 41 molded directly to string 42.

5 In Figures 9-12, the necklace 55 shown includes groups of beads of alternating colors, including small beads 57 of a first color (for example, eight beads, gold in color), and a second group of beads 58 of a second color (for example gold). Thus, the necklace 55 includes a total of forty-eight small beads. These small beads include three groups of eight each of the first color, beads 57 and three groups of eight beads 58 each of the second color. The groups of beads  
10 alternate such as for example, eight red beads, eight gold beads, eight red beads, etc.

A larger bead or a pendant 59 is supported by necklace body that includes the string 56 and the beads 57, 58. The pendant 59 preferably includes a plurality of displayed colors, including at least a first color 60 (e.g. gold) that corresponds to the color of the first group of small beads 57 of first color. The pendant 59 also includes a second color 61 (e.g. red) that  
15 corresponds to the color of the small beads 58 of a second color. The pendant 59 is preferably in the form of a team logo and provides a plurality of colors, at least two of the colors (i.e. team colors) being the same colors that are displayed in the small beads 57, 58.

Figures 13 and 14 show a method of manufacture of any of the necklaces of Figures 1-12. The necklace, such as necklace 55 can be constructed by directly molding the smaller beads 57, 58 to the supporting necklace string 56. If desired, a large bead that is larger than bead 57 or 58  
20 can be attached, (directly molded) to string 56. This direct molding can be accomplished by providing upper and lower mold sections, each having a cavity that corresponds in shape to one half of each bead. String 56 is supported at the interface that is defined by surfaces 66 and 67 of the respective mold sections 62, 64.

25 The lower mold section 62 provides a plurality of cavities 63 that are spaced at intervals, each of the cavities 63 can be shaped to define one half of the football shaped bead 57 or 58 shown in Figure 11. Likewise, the upper mold section 64 provides a plurality of cavities 65 that correspond in shape to one half of the football shaped beads 57, 58 of Figure 11. Upon assembly  
30 of one mold section 62 to the other 64, the surfaces 67, 68 meet and the cavities 63, 65 align so that material added to the interior of the cavities 63, 65 as aligned in Figure 14 provide football shaped beads 57, 58. Similar molds can be provided for the various other shapes that are shown

in Figures 1-8 such as basketball shaped cavities (or soccer ball, baseball, or hockey puck shapes).

Once a string 56 of beads 57, 58 has been manufactured using mold sections 62, 64, the necklace of Figure 9 can be completed by glueing or otherwise connecting the ends together at connections 68 shown in Figures 9 and 11.

The following is a list of parts and materials suitable for use in the present invention:

#### PARTS LIST

	<u>Number</u>	<u>Description</u>
	10	necklace
10	11	smaller bead
	12	string
	13	larger bead
	14	tapered end
	15	tapered end
15	16	large central portion
	17	simulated seam
	18	simulated laces
	20	necklace
	21	smaller bead
20	22	string
	23	larger bead
	24	simulated stitching
	30	necklace
	31	smaller bead
25	32	string
	33	larger bead
	34	simulated seam
	40	necklace
	41	smaller bead
30	42	string
	43	larger bead

	44	panel
	45	panel
	46	simulated seam
	50	necklace
5	51	necklace
	52	necklace
	53	necklace
	55	necklace
	56	string
10	57	small bead, first color
	58	small bead, second color
	59	pendant
	60	logo color, first color
	61	logo color, second color
15	62	lower mold section
	63	cavity
	64	upper mold section
	65	cavity
	66	surface
20	67	surface
	68	connection

All measurements disclosed herein are at standard temperature and pressure, at sea level on Earth, unless indicated otherwise. All materials used or intended to be used in a human being are biocompatible, unless indicated otherwise.

25        The foregoing embodiments are presented by way of example only; the scope of the present invention is to be limited only by the following claims.